



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

646.3012

Job Sheet 188352



Part No: 646.3012

Job Qty: 10 ea

Part Name: Lower Guide



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/8/19

Job Tracking No:

Due Date: 1/25/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV N/C SHEETS 1,3,5,8,9 IPP REV:A NEW ISSUE 13/01/30 JFS VERIFY BY: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea	1/25/19	1/25/19	0.00	0.00	Start Up Machining-1		SBL 19/01/25
100	Bandsaw	10 pcs	1/25/19	1/25/19	0.00	0.72	Bandsaw1		SBL 19/01/25
110	CNC Vertical Machining	10 pcs	1/25/19	1/25/19	0.20	11.49	HAAS1-1		SBL/SC 19/01/29
120	QC	10 pcs	1/25/19	1/25/19	0.00	0.00	QC2 Machining-1		SBL 19/01/29
130	QC	10 pcs	1/25/19	1/25/19	0.00	0.00	QC8 Machining-1		3L
140	Outsource	10 pcs	1/25/19	1/25/19			ATG001-VC	5	2019-02-12
150	Packaging	10 pcs	1/25/19	1/25/19	0.00	0.00	Packaging2		MAR 05 2019
155	QC	10 pcs	1/25/19	1/25/19	0.00	0.00	QC6		MAR 05 2019
180	Packaging	10 pcs	1/25/19	1/25/19	0.00	0.00	Packaging3-1		MAR 05 2019
190	QC21-SA	10 Ea	1/25/19	1/25/19	0.00	0.00	QC21		MAR 05 2019

Part Op 100 - Cut Blank at 27.500" ***ONE BLANK MAKE TWO PARTS***

Descriptions: 110 - 1-Machine per folio FB159

140 - Issue P/O to ATG : 00042585 Hard Anodize, Color Black and Prime as per Dwg 646.3000

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6S0.375X8.000	7075-T6S Sheet .375" Thick Plate X 8" Wide	11.4600 ft (1.146 ea)	90-Start up Operation	S138111

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T6S0.375X8.000	11	30	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Lower Guide	0.125inches $\pm$ 0.005	0.130 0.120		
2	Lower Guide	45.000Degrees $\pm$ 0.500	45.500 44.500	Angle	
3	Lower Guide	0.375inches $\pm$ 0.005	0.380 0.370		
4	Lower Guide	0.250inches $\pm$ 0.005	0.255	Radius	

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐				
Date :	Sequence #:	QTY Affected :		MRB (QSI042)		
Description Work Order Deviation			Disposition			
Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com  Container No: S148181 Part: 646.3012 Job No: 188352 Serial No/Batch: S148181 Revision: Inspector: Exp Date: Instructions: Date: 01/25/19					Completed By	
					Lead hand / Supervisor	
					QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ 			☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:						

				0.245	
5	Lower Guide	0.209inches	+ 0.005 - 0.001	0.214 0.208	Diameter
6	Lower Guide	0.177inches	+ 0.005 - 0.001	0.182 0.176	Diameter
7	Lower Guide	0.250inches	± 0.005	0.255 0.245	

Plex 1/8/19 1:43 PM Dart.lajeunesse.marie

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
3				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Jean Francois Sauve

From: Tyler Cross
Sent: January-30-19 1:02 PM
To: Jean Francois Sauve; Pablo Bravo; Alex Quan
Subject: RE: Deviation request / 646.3012

After speaking with Pablo, we are okay if there is a reduced thickness in areas that don't come in contact with a mating part. So parts 3-4 would be acceptable.

The overall thickness of .368 should be okay also.

Parts 1-2 would not be acceptable do to the potential slop with mating parts or mounting to the airframe.

Tyler

From: Jean Francois Sauve <jfsauve@dartaero.com>
Sent: Wednesday, January 30, 2019 6:24 AM
To: Tyler Cross <tcross@dartaero.com>; Pablo Bravo <pbravo@dartaero.com>; Alex Quan <aquan@dartaero.com>
Subject: RE: Deviation request / 646.3012

As you can see on the picture we have shown the affected area. For part 1-2, it is at a critical place where the thickness control the mating of sub parts but for part 3-4, affected area are only at the tip of the deflector. Will part 3 and 4 be acceptable?

What about the overall thickness for all parts at 0.368" (raw material), is that acceptable?

Thanks
Jean-Francois Sauvé

From: Tyler Cross
Sent: January-29-19 5:59 PM
To: Jean Francois Sauve <jfsauve@dartaero.com>; Pablo Bravo <pbravo@dartaero.com>; Alex Quan <aquan@dartaero.com>
Subject: RE: Deviation request / 646.3012

This to me seems more then something I'm okay approving. The amount of substantiation that goes into this parts are based on the nominal thickness. Reducing from .375 to .358 is substantial in my book.

Pablo, do you see any issue with this nonconformance?

Tyler

From: Jean Francois Sauve <jfsauve@dartaero.com>
Sent: Tuesday, January 29, 2019 1:28 PM
To: Tyler Cross <tcross@dartaero.com>; Pablo Bravo <pbravo@dartaero.com>; Alex Quan <aquan@dartaero.com>
Subject: Deviation request / 646.3012

Hi Guys,

Can you please have a look and let me know if this is acceptable.

The thickness of raw material that we had used for this job was 0.002" under tolerance. (0.368") 18 parts are affected.

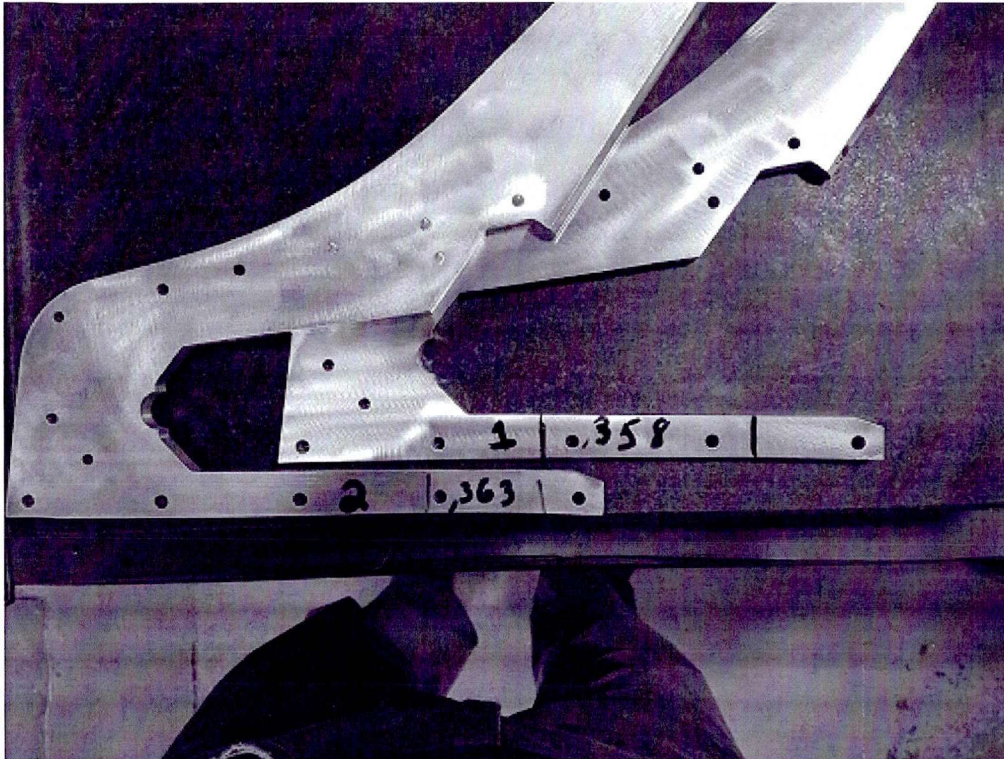
Also, there was four other parts that had deeper scratch, we have grinded smooth to remove the scratch but the thickness reach 0.358" at the lowest spot. Please see picture below.

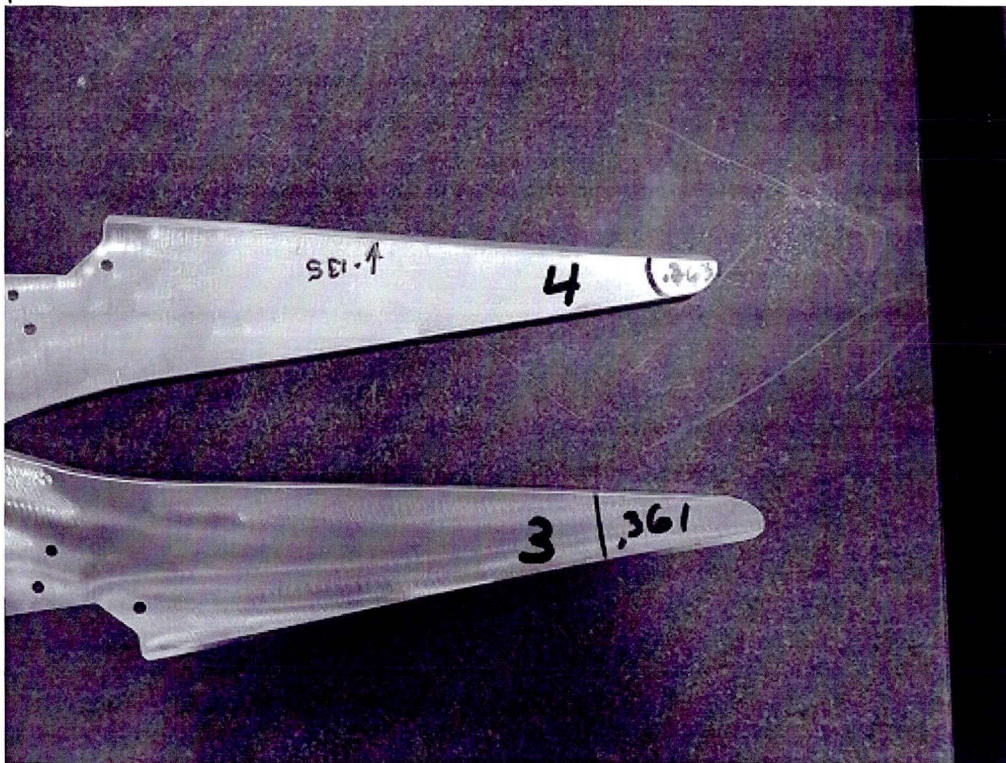
1- 0.358"

2- 0.363"

3- 0.361"

4- 0.363"





I would need your approval on this.

Thank-you!

JEAN-FRANÇOIS SAUVÉ
Production Engineering Coordinator

DART AEROSPACE
T 1 613 632-5200 > 237
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com



DQA: _____ Date: 2019/01/30**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>188 352</u> Part No. <u>646.3012</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☒</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																				
Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																				
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																				
Large Fab ☐	Composite ☐	Supplier ☐																																																																					
Date : <u>2019/01/30</u>		Step #: <u>110</u>		QTY Effective : <u>2</u>		MRB (QSI042) Approval																																																																	
Description Work Order Deviation <u>Raw material was under-cote, big scratch on it. 2 parts scrap.</u>				Disposition <u>scrap and destroy no replace</u>																																																																			
				Completed By <u>SBL 19/01/30</u>		Lead hand / Supervisor Approval Verification <u>19/01/30</u>																																																																	
				QC / QA Coordinator Approval																																																																			
Root Cause <table style="width:100%;"> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> </tr> <tr> <td>Material ☒</td> <td>Use for Testing ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>				Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☒	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>☒ Over/Under tolerance</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>				Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	☒ Over/Under tolerance	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐																																																																						
Design ☐	Operator ☐																																																																						
Doc/Data ☐	Offset/Setup ☐																																																																						
Equip/Tooling ☐	Supplier ☐																																																																						
Handling/Pre ☐	Training ☐																																																																						
Material ☒	Use for Testing ☐																																																																						
Internal Transport ☐	Poor Information ☐																																																																						
Tribal Knowledge ☐	Rushing ☐																																																																						
LOA ☐	Product Improvement ☐																																																																						
Substation ☐	Process Improvement ☐																																																																						
Past Expiry Date ☐	Manufacturing Process ☐																																																																						
Misidentified ☐	Past Due ☐																																																																						
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																				
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																				
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	☒ Over/Under tolerance																																																																				
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																				
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																				
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																				
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																				
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																				
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																				
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																				
OTHER : <u>see attach e-mail</u>																																																																							



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO042585



Supplier: ATG001-VC
A.T.G. Industries Inc
760 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO042585

PO Date: 2/12/19

Due Date: 3/6/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	188352	646.3012	Lower Guide Issue P/O to ATG : Hard Anodize, Color Black and Prime as per Dwg 646.3000	Firmed	-	3/6/19	20 pcs	0 pcs	20 pcs	\$21.73/pcs	\$434.60
3	188351	646.3011	RH Half (Outsource process- Anodize per QSI017 4.1.10.1) Issue P/O to ATG : Hard Black Anodize, Color Black and Prime as Per Dwg 646.3000	Firmed	-	3/6/19	20 pcs	0 pcs	20 pcs	\$12.08/pcs	\$241.60
4	187493	646.3010	LH Half Outsource4 (Outsource process- Anodize per QSI017 4.1.10.1) Issue P/O to ATG : Hard Black Anodize and Prime as per Dwg 646.3000	Firmed	-	3/6/19	10 pcs	0 pcs	10 pcs	\$12.08/pcs	\$120.80
5	190359	647.3917	Doubler Issue P/O to ATG : HARD ANODIZE, COLOR BLACK, AND PRIME AS PER DWG 647.3900 REV. C	Firmed	-	3/6/19	12 pcs	0 pcs	12 pcs	\$8.43/pcs	\$101.16



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042585



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
6	186584	D4824-1	Upper Cutter Mount : Various STC's Issue P/O: Black Anodize as per Dwg D4824 PRIME AS PER DWG, SEE NOTE #2	Firmed	-	3/6/19	8 pcs	0 pcs	8 pcs	\$15.23/pcs	\$121.84

Line Item Note: * as soon as possible *

Grand Total: \$1,020.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 3/5/19 8:15 AM dart.tsimiklis.chrisoula



A.T.G. Industries Inc.
760 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 917366

Date: 04-Mar-19

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

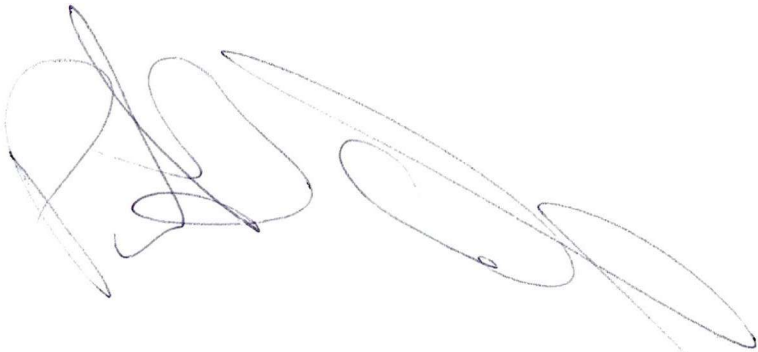
Chrisoula Tsimiklis
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		ATG Delivery	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
✓ 20 ea	Part: 646.3012 ✓ Lower Guide Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 24625	Rev: NC PO: PO042585 ✓	Line: 2
DAS 68 9-89			
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>4/3/19</u> Certified Signature: _____ Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.  Made in Canada.			